SECTION

2.

Section 2 - Changes to the Draft EIS

Section 2. Changes to the Draft EIS

Revisions

Executive Summary

pg. i - add to the end of the last full paragraph:
The HCP planning area encompasses approximately 1.6 million acres of state forest land managed by DNR within the range of the northern spotted owl. The Olympic Experimental State Forest (OESF) is one of nine planning units in the HCP planning area. The term of the permit would be 70 to 100 years (See Implementation Agreement).

Introduction	No change
DNR's Purpose and Need	No change
Background	No change
Need for Action	No change
Purpose for Action	No change
Issues and Concerns	No change
Planning Area	No change
Description of HCP Alternatives	No change
Alternative A	No change
Alternative B	No change
Alternative C	No change
Description of OESF Alternatives	No change
Alternative 1	No change
Alternative 2	No change
Alternative 3	No change
Description of Management Strategies for the HCP and OESF Alternatives	No change
Environmental Conditions	No change
Environmental Consequences of Alternatives	No change
The Northern Spotted Owl	No change
Marbled Murrelet	No change
Riparian Conservation	No change
Environmental Consequences of OESF Alternatives on Spotted Owls Marbled Murrelets, and Riparian Zone Conservation	No change
Spotted Owl Conservation	No change
Marbled Murrelets	No change
Riparian Zone Conservation	No change
Other Resources of Concern	No change
Summary	No change

1. Purpose of and Need for Action

1.1 Introduction

pg. 1-1 - add to the end of the first paragraph:
The Olympic Experimental State Forest is one of nine planning units in the HCP planning area (see Map 2). The term of the permit would be 70 to 100 years (See Implementation Agreement).

1.2 DNR's Purpose and Need	No change
Context of the Proposed Action	No change
DNR's Need for Action	No change
Purpose of the Proposed Action	No change
1.3 USFWS' and NMFS' Purpose and Need	No change
U.S. Fish and Wildlife Service Context	No change
National Marine Fisheries Service Context	No change
1.4 Regulatory Framework	No change
DNR's Regulatory Framework for Compliance with Environmental Laws	No change
Overview of Federal Requirements for Species Conservation	No change
Brief Review of Listings with Major Impacts on DNR Management	No change
1.5 Overview of the Olympic Experimental State Forest	No change
1.6 Issues and Concerns	No change
1.7 Overview of Remaining Chapters	No change

2. Alternatives

2.1 Introduction	No change
2.2 Development of DNR's Alternatives	No change
2.3 Features Common to All Reasonable Alternatives	No change
2.4 Range of Alternatives Originally Considered	No change

2.5 Evaluation of Alternatives Related to Eight Planning Units in HCP Area (Excluding OESF)

Alternative A	No change

pg. 2-11 - change heading:
Alternative B (Preferred Alternative)

pg. 2-11 - change paragraph under heading Alternative B:
Alternative B is DNR's proposed alternative and is designed to meet all of the stated purposes and needs. Under this alternative, DNR would implement and HCP and receive an incidental take permit for spotted owls, marbled murrelets, and other federally listed species throughout the planning area, as issued by the Services, for 70 to 100 years (See Implementation Agreement)...

Alternative C

pg. 2-16 - change heading at top of page:
Alternative C (Environmentally Preferred Alternative)

Alternative D	No change
Alternative E	No change
Alternative F	No change
Alternative G	No change
Alternative H	No change
Alternative I	No change
Alternative J	No change
Alternative K	No change
Alternative L	No change
Alternative M	No change
Alternative N	No change
2.6 Evaluation of Potential Olympic Experimental State Forest Alternatives	No change
OESF Alternative 1	No change
OESF Alternative 2	No change
OESF Alternative 3	No change
OESF Alternative 4	No change
OESF Alternative 5	No change
OESF Alternative 6	No change
OESF Alternative 7	No change
OESF Alternative 8	No change
OESF Alternative 9	No change
OESF Alternative 10	No change

3. Environmental Setting	No change
3.1 Summary of DNR-Managed Lands	No change
3.1.1 Land Covered by the Proposal	No change
3.1.2 Land Use	No change
3.1.3 Adjacent Ownership	No change
3.2 Climate	No change
3.3 Forest Disturbance on DNR-Managed Lands	No change
3.4 General Stand Conditions	No change

4. Affected Environment and Environmental Consequences

4.1 Chapter Organization	No change
4.2 Five West-Side Planning Units (excluding OESF)	No change

4.2.1 Northern Spotted Owl

pg. 4-41 - change last paragraph:
DNR's goal under Alternative C would be to develop and maintain 146,100 acres of suitable nesting, roosting, and foraging habitat within NRF management areas over the

life of the HCP. This does not include the habitat that may be maintained or developed in the experimental management areas in the South Coast Planning Unit. The change in amount of potential nesting, roosting, and foraging habitat on DNR-managed lands is summarized in Tables 4.2.12 and 4.2.13. ~~DNR did not run a forest growth/harvest model for Alternative C so no comparison can be made of the change in age class distribution over the next 100 years among all three alternatives.~~

pg. 4-43 - change first paragraph:
...The remaining acres may or may not be functional spotted owl habitat. Other provisions of the HCP under Alternative C have been modeled and could result in the retention of ~~a similar amount of potential habitat to that which would occur outside of NRF areas under Alternative B (approximately 271,500~~ 447,300 acres) of forest older than 70 years outside of NRF areas, but it is difficult to predict what proportion of this potential habitat would occur in a configuration that would be useful to spotted owls.

4.2.2 Marbled Murrelet

pg. 4-99 and 4-100 - change last paragraph on pg. 4-99 and first paragraph on pg. 4-100:
In western Washington, critical habitat designations included Congressionally Withdrawn Areas (~~1,200~~1,800 acres), Late-Successional Reserves (~~1,220,900~~1,220,200 acres), DNR-managed lands (~~493,200~~426,800 acres) and private lands (~~4,400~~2,500 acres). U.S. Fish and Wildlife Service stated that any lands within critical habitat that are included in a habitat conservation plan that addresses the conservation of the marbled murrelet will be subsequently excluded from critical habitat designation ~~upon approval of~~ while an HCP approved ~~HCP~~ by USFWS is in effect. According to state regulations, when critical habitat is designated by the federal government, actions within these areas automatically become Class IV-Specials and a SEPA checklist is required. Much of state-managed and private land designated in the USFWS critical habitat ~~proposal~~ rule are also being included in potential habitat conservation plans. ~~The USFWS is now evaluating additional information in the form of public comments and recent research results prior to a final determination to be published in the Federal Register.~~

pg. 4-107 - change third paragraph:
The President's Forest Plan, national parks, and Administratively and Congressionally Withdrawn Areas will protect approximately 783,648 acres of potential nesting habitat (WFPB 1995a). The potential release for harvest of the so-called "318 sales" under Public Law (salvage rider bill) ~~will~~ could affect the amount of habitat protected by the President's Forest Plan. In Washington State, these 318 sales include 15 sale units in the Olympic National Forest and 20 sale units in the Mt. Baker National Forest that are believed to be occupied by marbled murrelets. ~~If the salvage rider bill is implemented~~ At this time, the Service does not expect occupied habitat from these sales ~~would~~ to be harvested. ~~This issue has not yet been resolved.~~ A small amount of additional habitat would also be protected by the forest practices rules discussed previously. No habitat is currently protected by the spotted owl proposed 4(d) special rule, as this process is not yet complete. Little habitat has been protected by other HCPs completed to date, although none of the lands covered by these HCPs currently have occupied stands ~~critical habitat~~

~~designation, or in habitat conservation plans because these processes are still in draft form and have not been finalized.~~

pg. 4-110 - change last paragraph:
The Forest Practices Board Science Advisory Group (SAG) on marbled murrelets made recommendations to the Washington Forest Practices Board regarding murrelet protection on nonfederal lands in Washington in 1993 (Cummins et al. 1993). They concluded that the creation of abrupt forest openings adjacent to occupied stands may result in negative impacts to the suitability of marbled murrelet nesting habitat related to changes such as increased wind velocity, solar radiation, temperature, tree mortality, canopy cover and decreases in humidity near stand edges. One of the ~~primary constituent elements~~ selection criteria in the designation of critical habitat by the USFWS was the presence of large contiguous blocks of habitat. The Marbled Murrelet Working Team that drafted the guidelines for protection of marbled murrelets in the President's Forest Plan designated large contiguous blocks of habitat (Late-Successional Reserves) as the primary means of protecting occupied sites and breeding potential on federal lands.

4.2.2.3 Environmental Consequences to the Marbled Murrelet

pg. 4-118 - change first paragraph:
~~The~~This section describes the probable consequences to the marbled murrelet and its habitat of implementing the three alternatives presented in this DEIS. This discussion includes descriptions of the direct physical and biological consequences of each alternative and the cumulative effects of these actions.

pg. 4-123 - change fourth paragraph:
Some future options for the protection of habitat would be lost under Alternative B as some marginal habitat as defined by the habitat relationship study is harvested (including some occupied sites), and as some suitable unoccupied habitat is harvested in ~~each~~ planning ~~unit~~ units outside of southwest Washington before the long-term plan is developed. These actions would reduce the options available for consideration in developing the long-term conservation plan. Harvest under this alternative could result in the loss of some occupied sites that may have been important in maintaining a more uniform distribution of occupied sites on the landscape, preventing the isolation of some breeding sites, and providing potential replacement habitat for breeding sites lost to natural disturbance events.

pg. 4-123 - change last paragraph on 4-123 and first paragraph on 4-124:
Loss of some occupied sites in marginal habitat may be significant in some areas such as southwest Washington and near-coastal areas of the Olympic Peninsula where very few breeding sites remain to support local populations. Survival of populations in these areas may be completely dependent on a few remaining patches of suitable habitat. Harvest of any of these remaining sites may greatly reduce the likelihood that local populations would persist over time in these areas. Alternative B's long-term plan should address the issue of providing suitable but unoccupied habitat to replace habitat loss to natural disturbances or specifically plan to develop suitable habitat in areas specified in the Draft Recovery Plan. ~~In addition, since Alternative B does not specifically address the issue of~~

~~providing suitable but unoccupied habitat to replace habitat loss to natural disturbances or specifically plan to develop suitable habitat in areas specified in the Drat Marbled Murrelet Recovery Plan, the likelihood of populations surviving in these areas may be diminished~~. A worst case analysis would indicate it is possible that Alternative B would result in the harvest of a maximum of 5 percent of the occupied sites, thus potentially eliminating nesting habitat for 5 percent of the population on DNR-managed lands...

pg. 4-124 - change last paragraph:
...Only sites with the lowest probabilities of occupancy would be available for harvest. Hamer et al. (1994b) found that the probability of occupancy of a site is directly related to the number of murrelet detections recorded at a site, with a higher number of detections more likely to be recorded at sites with higher probabilities of occupancy (Figure 4.2.10). This model may not fully capture the relationship between the number of detections and probability of occupancy. For example, anecdotal evidence suggests that murrelets may be less likely to vocalize when entering or leaving a stand with low numbers of murrelets, making detection less likely (K. Flotlin, personal communication). Although the exact relationship between the number of murrelet detections recorded at a site and the numbers of birds using a site is unknown, it is generally accepted that a higher number of detections indicate that a larger number of birds are using an area...

pg. 4-131 - add to the end of first full paragraph:
Under Alternative B...In southwest Washington, options for the future will be preserved by retaining high quality suitable, but unoccupied habitat.

pg. 4-132 - change the second paragraph:
Alternative B would allow and encourage cooperative research on the marbled murrelet to collect information over the interim period to better provide substantial and verifiable protective measures to occupied sites. Such research would not be prioritized under the No Action alternative. With this information, DNR could assess the potential for breeding and survival success of marbled murrelets, allowing more efficient planning and habitat conservation...

pg. 4-133 - change last paragraph:
Alternative C would provide similar enhancement of breeding potential to Alternative B, except that under Alternative C there would be no harvest of suitable unoccupied murrelet habitat in any planning unit (as compared to just southwest Washington for Alternative B) or marginal habitat within a planning unit until a long-term conservation plan is developed for the unit...

pg. 4-134 - change first full paragraph:
The proposed actions under Alternative C are more consistent with recovery actions outlined in the Draft Marbled Murrelet Recovery Plan (Marbled Murrelet Recovery Team 1995) than those of Alternative B because of the provisions for suitable unoccupied habitat as replacement habitat and objectives to develop suitable habitat in critical areas over time. Except for southwest Washington where the expected results of Alternatives B and C are similar, Alternative C has a higher likelihood than Alternative B of protecting the reproductive potential of the population because there will be an increased likelihood

of providing for interior forest conditions due to the additional suitable unoccupied habitat that would be available and maintenance of marginal habitat...

pg. 4-137 - change the first full paragraph:
Protection provided by the ~~USFWS critical habitat designations (59 Fed. Reg. 3811 (1994))~~, spotted owl proposed 4 (d) special rule, additional habitat conservation plans, and from the proposed Washington State Forest Practices rule proposals for marbled murrelets is not yet known since these plans and processes have yet to be finalized. Therefore, the cumulative ~~a~~effects of these processes could not be analyzed. It is unknown if the results of these plans or rules will significantly add to the protection of the regional marbled murrelet population or not. USFWS critical habitat designations (61 Fed. Reg. 26256 (1996)) became final in May, 1996. Federal lands in reserve status under the President's Northwest Forest Plan provide the majority of lands that fall under critical habitat considerations. DNR-managed lands are currently designated to provide over 99 percent of the nonfederal critical habitat. The Service will conduct an assessment of the effects of DNR's proposed HCP on the critical habitat designation in its Biological Opinion. Additional protection to marbled murrelet populations from current forest practices rules and private land management policies is expected to be minimal. In addition, implementation of the Salvage Rider may result in a loss of 15 occupied sites on the Olympic Peninsula and 20 sites on the Mt. Baker National Forest, reducing the number of nesting opportunities for the marbled murrelet and further impacting the regional population. However, at this time, the Service does not expect harvesting in occupied habitat to occur as a result of the Salvage Rider. More detailed descriptions of these state, federal and private actions or plans are provided below.

pg. 4-138 - change the first full paragraph:
In addition, locating the majority of occupied sites and implementing landscape-level protection strategies for these areas would result in a higher likelihood of maintaining viable populations over time in western Washington. Alternative ~~C also~~ B provides ~~additional~~ interim protection to suitable but unoccupied habitat ~~and the long-term plan will include provisions for developing new habitat over time~~ in southwest Washington. Alternative C provides additional interim protection to suitable unoccupied habitat in all planning units and the long-term plan will include provisions for developing new habitat over time.

pg. 4-138 - delete second full paragraph entirely.
4.2.3 Description of the riparian ecosystem and a comparison of the HCP alternatives for protection of riparian ecosystem components No change

4.3 Three East-side Planning Units

4.3.1 Northern Spotted Owl

pg. 4-206 - change first full paragraph:
Results. Under Alternative B, 33 of the 78 known site centers do not have circles that overlap NRF management areas. The analysis indicates that timber harvest in 30 of these will exceed the rescinded USFWS take-avoidance guidelines (Table 4.3.15). Incidental

take is expected for ~~20~~ 17 of these site centers, and 10 additional site centers have a potential for incidental take. The only circumstances for which incidental take will certainly not occur as a result of DNR's proposed HCP is in those circles that do not contain DNR-managed habitat.

pg. 4-206 - change third full paragraph:
A total of ~~42~~ 39 site centers, known and projected unknown, are expected to be taken under Alternative B (Table 4.3.18). An additional 24 site centers have the potential to be taken. Therefore, a maximum of ~~66~~ 63 site centers are at risk for incidental take.

pg. 4-206 - change fourth full paragraph:
Discussion. Alternative B puts a large number of site centers at risk for take. The significance of this incidental take should be assessed in the context of current habitat conditions and the likelihood that these site centers will be occupied by territorial spotted owls now or in the future. Of the ~~50~~ 47 known site centers taken or having the potential to be taken, six are located in an owl circle containing less than 20 percent owl habitat. As discussed above, these sites are unlikely to be occupied. Also, of the ~~50~~ 47 known site centers taken or having the potential to be taken, 30 are within owl circles containing between 20 and 40 percent habitat...

4.3.2 Riparian Habitat — No change

4.4 Olympic Experimental State Forest Planning Area

4.4.1 Experimental Nature of Integrating Conservation and Production in the OESF — No change

4.4.2 Analysis of the Riparian Conservation Strategy for the Olympic Experimental State Forest

pg. 4-253 - change third paragraph:
...Buffer widths for Type 5 waters currently are determined on the ground by qualified staff and average ~~105~~ 95 feet wide. Harvest practices in these areas are not likely to change until a mechanism is invented for stabilizing ground that is prone to failure; such a mechanism, however, does not yet exist...

pg. 4-25~~4~~ - change the second paragraph:
~~...Average riparian widths given in Table 4.4.1 are classified as slope distances and then converted to horizontal distances for easy comparison with the regulated Forest Practices RMZ widths. Widths are expressed as slope distances to facilitate placing buffers on the ground, because the riparian parameters in need of protection (e.g., mass-wasting sites, minimum recruitment distances for coarse woody debris) are easier to measure in the field as ground-surface distances.~~ Buffer widths are shown in this table as horizontal and slope distances. Conversions ~~to~~ of horizontal distances to slope distances are based on average slope gradients, measured perpendicular to the stream channels...

pg. 4.267 - change the second large paragraph:
...This version potentially strengthens protection for coarse-woody-debris and shade sources by increasing the minimum ~~debris recruitment distances~~ assessment zone widths for debris recruitment in western Washington from 66 to 100 feet. Therefore, observed depletions in long-term sources of woody debris within 100 feet of the channel margin might require additional prescriptions for protecting wood sources. The module assessment also requires that all channels with gradients less than 20 percent be analyzed; this designation typically includes Type 4 and some Type 5 waters...

pg. 4-268 - change bullet (2) in the middle of the first paragraph:
(2) most buffers, ~~including the new 100-foot standard,~~ have not been tested or monitored long enough (i.e., several decades) to determine their long-term success...

pg. 4-275 - change first full paragraph:
...This means that an additional 33 percent by volume may not be removed, following the initial harvest, until that 33 percent has been replaced by mature trees that are capable of meeting criteria for windfirmness, shade, coarse-woody-debris recruitment, etc. (i.e., harvest once every rotation in adjacent upland stands).

pg. 4-275 and 4-276 - change last paragraph on pg. 275 and the first on pg. 276:
Under this alternative, average interior-core buffer widths for each stream type established on the OESF are greater than, or approximately equal to, the site potential tree height for a 50-year growing cycle and 70- to 90-percent of the site potential tree height for a 120-year growing cycle. ~~[Notice that interior-core and exterior buffer widths, as well as buffer widths based on site potential tree heights, are all measured as slope distances in the OESF.]~~

pg. 4-276 - change the third paragraph:
The No Action alternative potentially provides a moderate to high amount of protection for long-term recruitment of coarse woody debris to the flood plain and riparian-forest floor. In low-gradient, alluvial channels on DNR-managed lands, the interior-core buffers ~~are likely to~~ will encompass the active flood plain (i.e., 100-year floodplain) but might or might not incorporate older flood-plain surfaces and the full extent of the riparian forest floor, depending on local topography. In higher-gradient, confined reaches, the interior-core buffers likely will incorporate flood plains and riparian forest floors in their entirety.

pg. 4-276 - change the last paragraph:
...Timber harvest in the exterior buffer, which on average would be comparable to a light partial harvest (i.e., 33 percent removal by volume per rotation), should retain an adequate source of large conifer trees for eventual recruitment to the stream...

pg. 4-283 - change the middle of the second paragraph:
...Figures 4.4.4, 4.4.5, and 4.4.6 demonstrate one ~~potential scenario~~ of several potential scenarios for adjusting buffer widths to accommodate site conditions...

4.4.3 Analysis of the Northern Spotted Owl Conservation Strategy for the Olympic Experimental State Forest — No change

4.4.4 Analysis of Consequences to Marbled Murrelet, Other Wildlife and Plant Species in the OESF — No change

4.5 Other Species and Habitats

4.5.1 Section 10A Permit Species

pg. 4-357 - change paragraph under subhead Alternative B:
...Likewise, buffers around ponds and lakes that increase the abundance of waterfowl would benefit bald eagles by providing prey. The riparian management zones in the west-side planning units would be managed to provide large woody debris for salmonids, which should benefit bald eagles by maintaining large nest and/or roost trees 116 feet tall and 50-inch dbh (Anthony et al. 1982) along major watercourses...

pg. 4-359 - change paragraph under subheading Alternative B:
Although DNR's forest management activities are not anticipated to have major impacts on peregrine falcons or their habitat under any of the alternatives, Alternative B would improve habitat conditions over those provided in Alternative A by specifically addressing cliff habitat (potential nest sites) and specifying a detailed west-side riparian conservation strategy (prey habitat)...

pg. 4-361 - add to the end of the first paragraph under the subheading Alternative B:
...The spatial arrangement of spotted owl habitat in proximity to federal forests likely would provide wolves with travel opportunities. DNR will continue to participate in cooperative road closures with WDFW and the U.S. Forest Service to restrict vehicular activity to maintain or increase big game security. Additionally, to the extent practicable in appropriate areas, DNR will schedule management activities, including road construction and use, to occur at times of the year when wolves are least likely to be present.

pg. 4-361 - change last paragraph:
Although no other proactive consideration is given to wolves or public access in DNR's road strategy in this alternative, there would be a mechanism to protect wolves if they were observed on DNR-managed lands...

pg. 4-363 - add after first partial paragraph:
A substantial amount of post-emergence habitat occurs in low-elevation areas at the edge of the recovery zone. As of 1993, there were 104 Class I and Class II sightings in the Washington Cascades (Almack 1993). The locations of the North Cascades grizzly bear observations are widely distributed throughout the ecosystem. Locations and timing of locations indicate at least some of the grizzly bears in the local population are resident to the Washington Cascades, including reproductive females. The Service believes that higher open-road densities and minimal hiding cover could result in mortality and harassment of bears during a tenuous period in a natural-recovery process.

pg. 4-363 - change paragraph under subheading Alternative A:
Most importantly, no specific consideration would be given to grizzly bears or public access in DNR's road strategy under this alternative. ~~Without such consideration,~~ cConservation of grizzly bears and their habitat would be ~~minimal under Alternative A~~ governed by Section 9 of the ESA.

pg. 4-363 - change first paragraph under subheading Alternative B:
Improved wildlife habitat conditions afforded by the west-side riparian and northern spotted owl conservation strategies under this alternative might benefit grizzly bears. Increased hiding, resting, and travel cover (maintenance of debris and mature forest conditions) might improve access to prey/forage habitat (within harvest units and along west-side riparian areas).

pg. 4-364 - change first paragraph on page:
Because no proactive provisions to limit access or reduce road density are incorporated in this alternative, the benefits of increased habitat suitability in this alternative over Alternative A may not be fully realized. High active road densities, where present ~~if present~~, could decrease the probability that grizzly bears would occupy DNR-managed lands in those areas where this occurs...

pg. 4-364 - change second paragraph:
Overall, Alternative B's site-specific plans would provide ~~some~~ the potential for increased protection for grizzly bears and their habitat over Alternative A.

pg. 4-365 - change section heading:
4.5.2 ~~Candidate Species, Other~~Unlisted Fish and Wildlife Species

pg. 4-365 - change first paragraph:
In the following analysis of ~~unlisted~~ federal and state candidate species, federal species of concern, and other sensitive fish and wildlife species, brief descriptions of the biology and life history requirements of each species are presented before assessing the effects of the alternatives. A more comprehensive description of the species' biology and life history requirements, as well as their current federal and/or state status, is provided in Chapter III of the draft HCP.

pg. 4-365 - change second paragraph:
This analysis addresses the effects of the spotted owl and, to a limited extent, the marbled murrelet strategies, riparian ecosystem strategies, protection strategies for uncommon habitats, and species-specific protection measures, on particular unlisted species ~~of concern~~. For the west-side planning units, the effects of the alternatives are discussed, and action alternative effects are compared to the No Action alternative for each species whose range may include all or part of these planning units. For the OESF Planning Unit, analyses and comparisons are presented, as stated above, for the OESF No Action alternative, and Alternatives 2 and 3, for species whose range may include all or part of this planning unit. This analysis does not include the three east-side planning units because DNR is not seeking coverage for unlisted species east of the Cascade crest.

pg. 4-365 - change third paragraph:
...However, the owl and riparian conservation strategies under Alternative C provide greater amounts of late seral forest condition, owl dispersal habitat, and riparian protection than Alternative B, and may be of more benefit to unlisted species ~~of concern~~. The provisions to protect uncommon habitats and additional species-specific protection measures for unlisted species ~~of concern~~ are the same for both Alternatives B and C...

pg. 4-365 - change last paragraph:
A summary of conservation and protection measures by alternative is provided in ~~Table Matrices 4.5.1, and the following matrices.~~ Matrices 4.5.1a and 4.5.1b.

pg. 4-370 - change first paragraph:
Three species of molluscs that may occur in the HCP planning area are currently ~~candidates for federal listing~~ species of concern to the U.S. Fish and Wildlife Service (~~WDW 1993a; T. Frest, Deixis Consultants, Seattle, WA, pers. commun. to C. Turley, DNR, Olympia, WA, 1994~~ 61 Fed. Reg. 7457 (1996); USFWS 1996). Distribution and habitat requirements are not well understood for many aquatic molluscs; therefore, for the purposes of this analysis, all habitat needs for these species are assumed to be met in aquatic environments where they have been observed.

pg. 4-372 - change paragraph under heading Alternative B:
The management designed for protection of the riparian ecosystem under this alternative is expected to provide adequate guaranteed protection of the aquatic habitats considered important to the California floater and the great Columbia River spire snail where they occur on the west-side. Specific benefits of this alternative for aquatic species include the establishment of riparian management zones on all Type 1 through 4 Waters...

pg. 4-373 - change paragraph under heading Arthropods:
Seven species of arthropods known to occur, or that may occur, in the HCP planning area are currently species of concern to the U.S. Fish and Wildlife Service (61 Fed. Reg. 7457 (1996) or candidates for ~~federal or~~ state listing. An analysis of the effects of the alternatives on these species is discussed in the sections below.

pg. 4-374 - change paragraph under heading Alternative B:
...This protection is expected to be achieved primarily through the establishment of wetland buffers greater than or equal to 100 feet on all bogs greater than or equal to 0.25 acres, which is greater than current practices under Alternative A. Also, habitat known to be occupied by the Beller's ground beetle and Hatch's click beetle would continue to be protected in the Natural Area Preserves. DNR's FRP policies regarding the use of herbicides and pesticides would continue, which is the same as under the No Action alternative.

pg. 4-374 - change paragraph under heading Alternative C:
...This protection would be greater than the No Action alternative because of the guaranteed protection zones, and the no-harvest restriction in the wetland buffers. Also, habitat known to be occupied by the Beller's ground beetle and Hatch's click beetle would continue to be protected in the Natural Area Preserves. However, policies

regarding the use of herbicides and pesticides would be according to DNR's FRP, which is the same as under the No Action alternative.

pg. 4-378 - change OESF Alternative 2:
Under the unzoned alternative, it is predicted that 153,400 acres of suitable spotted owl habitat would be available in year 2096, approximately 20 percent of which would be ~~late-successional~~ old forest habitat available throughout the planning period. Old forest is defined as a forest that has characteristics of, and functions as, late successional forest and may possibly be developed through management. While providing ~~late-successional~~ old forest habitats is emphasized in this plan, habitat quality may be limited by the degree of mistletoe infestation in regenerating stands. Further, the degree of butterfly habitat connectivity that would result is unknown. However, the unzoned alternative appears to provide the greatest amount of potential hairstreak habitat that would be well distributed throughout the OESF.

pg. 4-379 - change first full paragraph:
Five ~~federal candidate species of~~ fish species, excluding ~~salmonid species~~ anadromous salmonids, are federal candidates for listing or species of concern to the U.S. Fish and Wildlife Service and are known to occur within the bounds of the west-side HCP planning units~~; one species~~. One of these, the Olympic mudminnow, is also a candidate for listing by the state. All the spawning, juvenile and rearing habitats for three of these species are provided by the freshwater aquatic environment...

pg. 4-381 - delete heading Green Sturgeon and entire first paragraph

pg. 4-381 - change paragraph under heading Alternative A:
Current management of the riparian ecosystem on DNR-managed lands is expected to provide some protection of suitable spawning and rearing habitats for the bull trout, Olympic mudminnow, and Pacific and river lampreys. ~~Green sturgeon spawning and juvenile rearing habitats are not known to occur in Washington State, and thus are not affected~~ This habitat receives the protection provided primarily by ~~DNR timber harvest activities within the HCP planning area~~ the establishment and protection of WMZs on nonforested wetlands and of riparian management zones on all identifiable Type 1 through 5 Waters according to DNR's FRP policies. ~~However, as mentioned above, some adult rearing habitat occurs along the Columbia River. This habitat receives the same protection as the spawning and rearing habitats described for the other four fish species, which is provided primarily by the establishment and protection of WMZs on nonforested wetlands and of riparian management zones on all identifiable Type 1 through 5 Waters according to DNR's FRP policies.~~ Based on a survey of timber sales sold on DNR-managed land since 1992, no timber management activity has occurred in 77 percent of the riparian management zones established on Type 1 through 5 Waters on DNR-managed land...

pg. 4-396 - change paragraph under heading Amphibians and Reptiles:
~~Seven~~ One species of ~~amphibians and two species of reptiles that occur in the HCP planning area are either~~ amphibian, the spotted frog, is a federal candidate for listing. Six

species of amphibians and two species of reptiles that occur in the HCP planning area are either species of concern to the U.S. Fish and Wildlife Service or state candidates for listing as threatened or endangered (WDW 1993a; 61 Fed. Reg. 7457 (1996); USFWS 1996). The habitat requirements of, and assessments of the effects of the alternatives on, each of these species are presented in the following sections.

pg. 4-397 - change paragraph under heading Alternative B:

...Under Alternative B, the conservation objectives for talus fields greater than or equal to 1 acre in size, or greater than or equal to 0.25 acre in size in most of the Columbia Planning Unit, are to maintain its physical integrity and minimize dramatic changes in microclimate. Talus fields would be protected by ~~preventing disturbance from logging~~ a no-harvest restriction and, ~~yarding, and~~ where practicable ~~and economically feasible~~, road construction and extraction of road building materials would be avoided. In addition, a 100-foot wide forested buffer would be maintained around these talus fields~~, and no more than 33 percent of the stems or volume would be harvested from the buffer~~. ~~These measures~~ Harvest would ~~adequately protect the integrity of the talus fields, and the microclimate within, but management~~ be permitted in the buffer ~~may negatively affect microclimate regimes within the buffered talus~~ but only where ~~Larch Mountain salamanders are known~~ 60 percent canopy cover could be retained, which is anticipated to ~~occur~~ adequately maintain the microclimate regimes within the buffered talus. In ~~addition, talus areas less~~ the forested talus outside of the buffer, no more than ~~1 acre in size would not~~ 33 percent of the volume would be ~~protected, and activity in or near these areas in~~ harvested. These measures would adequately protect the ~~Columbia and Klickitat planning units would likely negatively impact this salamander species, since these planning units contain the core of its range~~ integrity of the talus fields where Larch Mountain salamanders are known to occur. Under this alternative, cave entrances would be protected by a 250-foot no-harvest buffer which would maintain the microclimate near entrances, where these salamanders are known to occur, and by keeping cave locations confidential. This protection is substantially greater than Alternative A because of the specific conservation measures directed to special habitat types known to be used by Larch Mountain salamanders.

pg. 4-397 - change paragraph under heading Alternative C:

...Under this alternative, forested and nonforested wetlands would have the same buffers as Alternative B, which may protect some large woody debris and, when adjacent to talus fields, would provide more protection of Larch Mountain salamander habitat. ~~However, the same concerns for microclimate maintenance, as stated above, would exist.~~ Owl NRF habitat maintained or developed in the Klickitat and Columbia planning units, would be greater than Alternative B and, thus, Alternative A, with the same benefits. ~~Under Alternative C, the conservation objectives for talus fields and caves are the same as under Alternative B, and would provide the same~~ The protection ~~of Larch Mountain salamander~~ provided for uncommon habitat ~~as described above~~ types in Alternative C is the same as in Alternative B. ~~Overall~~ Therefore, protection of Larch Mountain salamander habitat under this alternative would be slightly greater than Alternative B because of the additional riparian protection that may include some additional talus fields, and substantially better than under the No Action alternative.

pg. 4-398 - change second full paragraph:
Dunn's and Van Dyke's salamanders are candidates for listing by the state (WDFW 1995b). The tailed frog (*Ascaphus truei*) is currently a ~~category 2 candidate for federal listing (59 Fed~~ species of concern to the U.S. Fish and Wildlife Service and a state monitored species (WDW 1993a; 61 Fed. Reg. 7457 (1996); USFWS 1996). ~~Reg. 58982 (1994)) and a state monitor species (WDW 1993a).~~ These species utilize similar habitats for breeding, foraging, and resting. Thus, for purposes of this assessment, the effects of the alternatives on these species have been combined.

pg. 4-399 and 4-400 - change paragraph under heading Alternative B:
...Riparian buffers would be established as described in DEIS Chapter 2 and in draft HCP Chapter IV. This protection includes 100-foot buffers on Type 4 streams where these species are known to occur. Based on current No Action activities and the protection of steep and unstable slopes of this alternative, it is anticipated that greater than 50 percent of Type 5 streams will be protected by restrictions on management activities near these streams...Talus fields that are greater than or equal to 1 acre in size throughout the HCP area, and greater than or equal to 0.25 acre in the Columbia Planning Unit, would be protected as described in draft HCP Chapter IV, Section F and Appendix 3, Chapter IV, Section F, in this document. Van Dyke's salamander may be found in seeps within old-growth forests.

pg. 4-406 - change paragraph under heading Birds:
Twenty priority species of birds may occur in the HCP planning area. Thirteen of these ~~species~~ are ~~federal~~ species of concern to the U.S. Fish and Wildlife Service or state candidates for listing. One species, the Sandhill crane, is listed as endangered by the state...

pg. 4-410 and 4-411 - change paragraph under heading Alternative B:
Under this alternative, wetland buffers would be slightly larger than under Alternative A, but they would likely incur some management. Harvests in riparian and wetland buffers would probably reduce the number of suitable cavities for nesting, ~~but~~ however the ~~Washington Forest Practices Rules leave tree requirement~~ 25-foot no-harvest and minimal-harvest zones would ~~provide additional~~ ensure that some cavity trees near stream banks would be retained. Openings created by some harvest entries may~~, however,~~ provide plant foods for species like the wood duck. Wind buffers, where designated, may provide additional area to buffers which could reduce disturbance and provide additional cavities for cavity-nesting ducks. The ~~requirement for three wildlife reserve trees~~ provision to retain three snags and ~~two~~ five green ~~recruitment trees may~~ trees per acre, as well as the provision to retain large, unique wildlife trees, would also provide potential cavity trees for use by cavity-nesting ducks when located near riparian buffers. Overall, Alternative B ~~may be slightly more beneficial in the long term than Alternative A because of the assurance of establishing riparian and wetland buffers of a guaranteed width. In the short term, however, the amount of habitat available under Alternative B~~ would be ~~less than that provided under Alternative A~~ more beneficial in the long term than Alternative A because of the assurance of establishing no-harvest and minimal-harvest riparian and wetland buffers of a guaranteed width, and the provision to protect snags and provide green trees with the potential to become future cavity trees.

pg. 4-411 - change paragraph under heading Alternative C:
Under this alternative, riparian and wetland management zones would be similar to Alternative B, except that wind buffers would be added to each side of the Type 1 through 3 Waters, and wetland buffers would have a 50 foot no-harvest area (DEIS Chapter 2). ~~Implementation of this alternative could result in a reduction in habitat, in riparian areas adjacent to Type 1 through 3 Waters, from Alternative A because it provides smaller buffers that may be harvested~~. The addition of wind buffers would widen the riparian protection, compared to Alternative B, ~~but management activity could be conducted~~ and only restoration activities would be permitted. Harvests in riparian and wetland buffers would probably reduce the number of suitable cavities for nesting, however, the 50-foot no-harvest provision for wetlands, and the 25-foot no-harvest and minimal-harvest zones in the riparian buffer would ensure that some cavity trees near wetlands and stream banks would be retained. ~~Only restoration activities would be permitted in the wind buffers, and with the Washington Forest Practices Rules leave tree requirement, there would be some cavity trees available for use~~ Openings created by ~~cavity-nesting ducks~~ some harvest entries may provide plant foods for species like the wood duck. Wind buffers, where designated, may provide additional area to buffers which could reduce disturbance and provide additional cavities for cavity-nesting ducks. The provision to retain three snags and five green trees per acre, as well as the provision to retain large, unique wildlife trees would also provide potential cavity trees for use by cavity-nesting ducks when located near riparian buffers. Under Alternative C, the larger and less disturbed riparian buffers and the no-harvest portion of the wetland buffers may increase nesting habitat suitability by providing more suitable cavity trees and snags adjacent to foraging and brooding areas, and reducing the probability of disturbance from human activities. ~~This alternative may be as beneficial as the No Action alternative if present and future cavity trees and snags are preserved in buffers around larger streams.~~

pg. 4-411 - change paragraph under heading OESF Action Alternatives:
...The addition of an exterior buffer would likely benefit cavity-nesting ducks if suitable cavity trees are retained within riparian zones. ~~These~~ With the same snag and green tree retention conservation strategy as in Alternatives B and C, these alternatives would provide ~~more support if designated buffers were targeted to become or remain late-successional forests~~ and protect more current and potential cavity trees than the No Action alternative.

pg. 4-413 - change paragraph under heading Alternative B:
The combination of the riparian and spotted owl conservation strategies should provide forest conditions suitable for northern goshawk breeding, foraging, and resting habitat. In concert, these strategies should ensure the development of ~~large~~ contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest...

pg. 4-414 - change first full paragraph:
...In total, 40-42 percent of the area managed for spotted owl breeding habitat would be sub-mature to ~~or~~ old-growth forest. The landscape conditions in the areas managed as spotted owl breeding habitat would meet or exceed the habitat recommendations made by Reynolds et al. (1992)

pg. 4-415 - add a new second paragraph:
In addition, the strategy to retain three snags and five green trees per acre of harvest would benefit goshawks by providing habitat for prey species and potential future nest trees in upland areas. This conservation measure is enhanced by the added provisions to include one tree from the largest diameter size class, and to retain large, structurally unique trees valuable to wildlife, where possible. This conservation measure would complement the owl and riparian strategies to provide more habitat than that provided under Alternative A.

pg. 4-415 - change first paragraph under heading Alternative C:
...In concert, these strategies should ensure the development of ~~large~~ somewhat larger contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest than Alternative B.

pg. 4-415 - change fifth paragraph:
~~Under Alternative C,~~ The snag and green tree retention conservation measure, as well as the restriction on activities within 0.55 mile of a known active goshawk nest, within NRF-designated areas, would be the same as ~~described in~~ under Alternative B. ~~These~~ As such, the benefits to goshawks would be the same and complementary to the owl and riparian conservation strategies ~~and protection measures would be of~~, which would be more ~~benefit~~ beneficial to ~~the goshawk than~~ goshawks than what is ~~provide~~ provided under Alternative A.

pg. 4-416 - change paragraph under heading OESF Alternative 2:
...~~Together, the owl~~ In addition, the strategy~~, and the guaranteed riparian~~ to retain three snags and ~~wetland management zones,~~ five green trees per acre of harvest would ~~provide adequate suitable goshawk~~ benefit goshawks by providing habitat ~~throughout the OESF~~ for prey species and potential future nest trees in upland areas. This conservation measure is enhanced by the added provisions to include one tree from the largest diameter size class and to retain large, structurally unique trees valuable to wildlife, where possible. Together, the owl strategy, the snag and leave tree strategy, and the guaranteed riparian and wetland management zones would provide adequate suitable goshawk habitat throughout the OESF. This goshawk habitat would be more than that provided under the No Action alternative.

pg. 4-416 - change paragraph under heading OESF Alternative 3:
...Nevertheless, the owl strategy, the snag and green tree retention strategy described in Alternative 2, and the guaranteed riparian and wetland management zones would provide adequate suitable goshawk habitat in the OESF. This goshawk habitat would be more than that provided under the No Action alternative.

pg. 4-417 - change paragraph under heading Alternative B:
...In total, approximately 40 percent of the area managed for spotted owl breeding habitat would be ~~mature or~~ sub-mature to old-growth forest which should provide an adequate supply of potentially suitable nest trees. Cliffs may also be used as nest sites for golden eagles. Under Alternative B, there is a provision for some cliff protection whereby mining of rock from cliffs for road construction would be avoided when materials can otherwise be reasonably acquired, although this would not be guaranteed protection from

disturbance. DNR would also evaluate, in coordination with USFWS, and protect the integrity of cliffs judged suitable for and likely to be used by wildlife. Trees along the base and top of cliffs suitable for nesting raptors would be retained. In addition, very large, old trees specified for retention under this alternative would be available as potential nest trees for golden eagles...

pg. 4-417 and 4-418 - change paragraph under heading Alternative C:
...In areas managed for spotted owl breeding haabitat, at least 60 percent of the areas in each WAU would be sub-mature forest or higher quality habitat with old-growth quality features. ~~The areas managed for spotted owl breeding habitat would contain mature or old-growth forest~~ which would provide an adequate supply of potentially suitable nest trees...

pg. 4-421 and 4-422 - change paragraph under heading Alternative B:
The combination of the riparian and spotted owl conservation strategies should provide forest conditions suitable for Vaux's swift breeding, foraging, and resting habitat. In concert, these strategies should ensure the development of large contiguous landscapes of sub-mature ~~and~~ to old-growth forest containing large live trees and snags...The large, old trees would be selected for their unique structural characteristics or because they are considered to be old-growth remnants~~, and at least half the trees would belong to the size class of the largest diameter living trees in the harvest unit. These trees would have~~ Under the ~~potential to become suitable snags~~ snag and green tree retention strategy, three snags per acre harvested would be retained with a preference shown for ~~Vaux's swift in the future~~ protection of hard snags with bark, greater than 40 feet in height where available, and one of the five green trees being retained per acre harvested would belong to the size class of the largest diameter living trees in the harvest unit. ~~Alternative B does not address specific protection of large snags, providing additional snags, or measures describing how potential suitable snags~~ These green trees would ~~be retained~~ have the potential to become suitable snags for Vaux's swift in the future. ~~However,~~ Under Alternative B, the protection and maintenance of potential Vaux's swift habitat, as well as known occupied sites, is guaranteed ~~under this alternative,~~ and is substantially greater than that provided under the No Action alternative.

pg. 4-422 - change paragraph under heading Alternative C:
The combination of the riparian and spotted owl conservation strategies should provide forest conditions suitable for Vaux's swift breeding, foraging, and resting habitat. In concert, these strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest containing large live trees and snags...Like Alternative B, Alternative C ~~does not address specific protection of large snags, providing additional snags, or measures describing how potential suitable snags~~ would ~~be retained~~ have the snag and green tree retention strategy. ~~However, the~~The protection and maintenance of potential Vaux's swift habitat, as well as known occupied sites, is guaranteed under this alternative and is substantially greater than that provided under the No Action alternative.

pg. 4-422 and 4-423 - change paragraph under heading OESF Alternative 2:
...In addition, specific provisions for protection of very large, old trees, snag and green tree retention, and protection of known Vaux's swift night roosts and active nests as described in Alternative B would be implemented...

pg. 4-423 - change paragraph under heading OESF Alternative 3:
...In addition, specific provisions for protection of very large, old trees, snag and green tree retention, and protection of known Vaux's swift night roosts and active nests as described in Alternative B would be implemented...

pg. 4-424 - change paragraph under heading Alternative B:
...In concert, these strategies should ensure the development of large contiguous landscapes of sub-mature to ~~and~~ old-growth forest containing large live trees and snags...In addition, this alternative contains special provisions for protecting oak woodlands, ~~and very~~ large, ~~old~~ structurally unique trees, and retaining three snags and five green trees per acre harvested (~~draft HCP Chapter IV~~ Appendix 3, Chapter IV, Section F). These provisions would protect current and future potential Lewis' woodpecker habitat. These conservation measures are greater than under the No Action alternative because of the owl conservation strategy, guaranteed riparian buffers, and the special provisions to protect potential Lewis' woodpecker habitat in oak woodlands and large, ~~older~~ structurally unique trees, and snags.

pg. 4-424 - change paragraph under heading Alternative C:
...Like Alternative B, this alternative also contains special provisions for protecting oak woodlands ~~and~~, ~~very~~ large, ~~old~~ structurally unique trees, and providing snags and green trees as current and future habitat (DEIS Chapter 2). These conservation measures are greater than under the No Action alternative because of the owl conservation strategy, guaranteed riparian buffers, and the special provisions to protect potential Lewis' woodpecker habitat in oak woodlands and large, ~~older~~ structurally unique trees and snags.

pg. 4-425 - change paragraph under heading Alternative B:
...In concert, these strategies should ensure the development of large contiguous landscapes of sub-mature to ~~and~~ old-growth forest containing large live tree and snags...In addition, under this alternative, very large, ~~old~~ structurally unique trees would be retained, as part of the snag and green tree retention strategy, providing potential future suitable nest and roost sites for pileated woodpecker. Preference would be shown for hard snags with bark and at least 20 inches dbh. Where possible, snags 40 feet high would be retained. This protection would be guaranteed and would be substantially greater than under the No Action alternative.

pg. 4-426 - change paragraph under heading Alternative C:
...Like Alternative B, this alternative also contains special provisions for protecting very large, old trees (DEIS Chapter 2) providing potential future suitable nest and roost sites for pileated woodpecker, and for retaining additional snags and green trees. This protection is guaranteed and is substantially greater than under the No Action alternative.

pg. 4-426 - change paragraph under heading OESF Alternative 2:
...The provision for retaining very large, old trees, and snags and green trees described in Alternatives B and C above would also apply to this OESF action alternative...

pg. 4-426 and 4-427 - change paragraph under heading OESF Alternative 3:
...The provision for retaining very large, old trees, and snags and green trees described in Alternatives B and C above would also apply to this OESF action alternative...

pg. 4-427 - change first paragraph under heading Alternative B:
The combination of the riparian and spotted owl conservation strategies should provide forest conditions suitable for olive-sided flycatcher breeding, foraging, and resting habitat. In concert, these strategies should ensure the development of large contiguous landscapes of sub-mature to ~~and~~ old-growth forest...

pg. 4-427 and 4-428 - change last paragraph on 4-427 and first paragraph on 4-428:
...In addition, this alternative also contains a provision for conserving large, old trees important to wildlife, as part of the ~~Washington Forest Practices Rules leave~~ snag and green tree ~~requirement~~ retention strategy, which eventually may become snags preferred by the olive-sided flycatcher.

pg. 4-428 - change paragraph under heading Alternative C:
...In addition, this alternative also contains a provision for conserving large, old trees important to wildlife, as part of the ~~Washington Forest Practices Rules leave~~ snag and green tree ~~requirement~~ retention strategy, which eventually may become snags preferred by the olive-sided flycatcher.

pg. 4-431 - change paragraph under heading Alternative B:
...In concert, these strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest containing large live trees and snags. Ecosystem restoration within the riparian buffer would try to maintain the natural mix of conifer and deciduous species. In addition, this alternative contains a special provision for protecting very large, old trees as part of the snag and green tree retention strategy (~~HCP Chapter IV~~ Appendix 3, Chapter IV, Section F). The additional snags and green trees would function as a source of current and future habitat for purple martins. These conservation measures are greater than under the No Action alternative because of the owl conservation strategy, guaranteed riparian buffers, the snag and green tree retention strategy, and the special provision to protect large, older trees which may function in the future as purple martin habitat.

pg. 4-432 - change first paragraph:
...In concert, these strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest containing large live trees and snags. In addition, this alternative contains the special provision for protecting very large, old trees as part of the snag and green tree retention strategy (DEIS Chapter 2). The additional snags and green trees would function as a source of current and future habitat for purple martins. These conservation measures are greater than under the No Action alternative because of the owl conservation strategy, guaranteed riparian buffers, the snag

and green tree retention strategy, and the special provision to protect large, older trees which may function in the future as purple martin habitat.

pg. 4-432 - change paragraph under heading Alternative B:
...In addition, the provision to retain three snags and five green trees per acre harvested would ensure that current and future snags are available in upland areas for use by western bluebirds. This protection is guaranteed and is substantially greater than under the No Action alternative.

pg. 4-433 - change paragraph under heading Alternative C:
...In addition, the provision to retain three snags and five green trees per acre harvested would ensure that current and future snags are available in upland areas for use by western bluebirds. This protection is guaranteed and is substantially greater than under the No Action alternative.

pg. 4-434 - change paragraph under heading Alternative B:
...Harvestable riparian and wetland buffers, under Alternative B, could benefit band-tails if allowed to support understory food plants. In addition, impacts to mineral springs would be reduced by designing management activities within 200 feet of mineral springs to retain food sources, restrict herbicide spraying, avoid disturbance, and address other conservation needs. These management activities would be designed in coordination with USFWS. The commitment to guaranteed riparian and wetlands buffers, the provision to conduct limited management activities near mineral springs, and maintenance of 50 percent owl ~~breeding~~ habitat likely would provide more habitat for band-tailed pigeons in the long term than would Alternative A.

pg. 434 - change paragraph under heading Alternative C:
...Harvestable riparian and wetland buffers, under Alternative C, could benefit band-tails if allowed to support understory food plants. In addition, impacts to mineral springs would be reduced by designing management activities within 200 feet of mineral springs to retain food sources, restrict herbicide spraying, avoid disturbance, and address other conservation needs. These management activities would be designed in coordination with USFWS. The commitment to guaranteed riparian and wetlands buffers, the provision to conduct limited management activities near mineral springs, and maintenance of 60 percent owl ~~breeding~~ habitat likely would provide more habitat for band-tailed pigeons in the long term than would Alternative A.

pg. 4-435 - change first paragraph:
...The ~~guarantees of the riparian and wetland buffers, as well as the distribution of owl habitat throughout the OESF, would provide more band-tailed pigeon habitat than~~ provision for mineral spring protection described in Alternative ~~1~~ B would be the same under this alternative. The guarantees of the riparian and wetland buffers, the provision to conduct limited management activity near mineral springs, as well as the distribution of owl habitat throughout the OESF, would provide more band-tailed pigeon habitat than Alternative 1.

pg. 4-435 - change paragraph under heading OESF Alternative 3:
...Riparian and wetland provisions in this alternative are the same as Alternative 2, as well as the provision for mineral spring protection described in Alternative B, and would provide similar benefits to band-tailed pigeons. The amount of owl habitat would likely be less than what is currently available under ~~the~~ Alternative 1, but protection of mineral springs would likely provide more habitat in the long term~~, this may not continue~~ than under Alternative 1.

pg. 4-435 - replace paragraph under heading Mammals:
~~Twelve~~ Fifteen species of mammals that occur or may occur in the west-side HCP planning units are considered high priority species. Three species are federally listed, one is state listed, and ~~eight~~ nine are ~~candidates for~~ federal ~~listing~~ species of concern ~~(59 Fed. Reg. 58982-59028 (1994)~~ 61 Fed. Reg. 7457 (1996); USFWS (1996), WDFW 1995b). An analysis of the state-listed western gray squirrel and the eight federal candidate species of concern as well as 2 additional priority bat species is provided below.

pg. 4-437 - change paragraph under heading Alternative B:
...In concert, these strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest containing large trees and snags. In addition, talus fields, cliffs, and caves would be protected as described in HCP Chapter IV, Section F and Appendix 3, Chapter IV, Section F, in this document. Live trees or snags that are known to be used by myotis bat species as communal roosts or maternity colonies would not be harvested. Under Alternative B, very large long-lived trees would be retained, as part of the snag and green tree retention strategy, providing potential suitable snags for maternal roosts in the future. ~~In addition, there is a provision directed toward preventing human disturbance to bat caves by keeping cave locations confidential~~ The snags protected and green trees provided in this latter conservation measure would ensure that potential roost sites would be available now and in the future. ~~These conservation measures are greater than what occurs under the No Action alternative.~~ In addition, there is a provision directed toward preventing human disturbance to bat caves by keeping cave locations confidential. These conservation measures are substantially greater than what occurs under the No Action alternative.

pg. 4-437 and 4-438 - change paragraph under heading Alternative C:
...In concert, these strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest containing large trees and snags. In addition, talus fields, cliffs, and caves would be protected as described in HCP Chapter IV, Section F and in this document, Appendix 3, Chapter IV, Section F, and live trees or snags that are known to be used by myotis bat species as communal roosts or maternity colonies would not be harvested. Under Alternative C, very large long-lived trees would also be retained, as part of the snag and green tree retention strategy, providing potential suitable snags for maternal roosts in the future. ~~In addition, there is a provision directed toward preventing human disturbance to bat caves by keeping cave locations confidential~~ The snags protected and green trees provided in this latter conservation measure would ensure that potential roost sites would be available now and in the future. ~~These conservation measures are greater than what occurs under the No Action alternative~~ In addition, there is a provision directed toward preventing human

disturbance to bat caves by keeping cave locations confidential. These conservation measures are substantially greater than what occurs under the No Action alternative.

pg. 4-438 - change paragraph under heading OESF Alternative 2:
...In addition, talus fields, cliffs, and caves would be protected as described in HCP Chapter IV, Section F and Appendix 3, Chapter IV, Section F in this document, as well as very large long-lived trees. Live trees or snags that are known to be used by myotis bat species as communal roosts or maternity colonies would not be harvested, and potential future roosts would be available through the snag and green tree retention strategy described in Alternative B...

pg. 4-439 - change first paragraph:
...In addition, talus fields, cliffs, and caves would be protected as described in HCP Chapter IV, Section F and Appendix 3, Chapter IV, Section F in this document, as well as very large long-lived trees. Live trees or snags that are known to be used by myotis bat species as communal roosts or maternity colonies would not be harvested, and potential future roosts would be available through the snag and green tree retention strategy described in Alternative B...

pg. 4-440 - change paragraph under heading Alternative A:
~~Given that the spotted bat in Washington occurs exclusively east of the Cascade mountains, only the spotted owl strategies designed for the east-side planning units have the potential to provide or protect the roosting and foraging habitat for this species.~~
Current management activity for the spotted owl under the No Action alternative is expected to provide no guaranteed protection of roosting or foraging habitat for the spotted bat. Roosting and foraging habitats as described above (excluding sagebrush communities) may be encompassed within the suitable owl habitat maintained within owl circles, however, these habitats would only be protected incidentally ~~under each of the proposed options~~.

pg. 4-442 - change paragraph under heading Alternative B:
...This would provide protection for pure white oak stands, and for some ponderosa pine stands where white oak is a significant component. This conservation measure includes retention of all very large dominant oaks, and maintaining 25 to 50 percent canopy cover in areas where partial harvest is conducted. These forests occur in the Columbia Gorge, and on the east slope of the southern Washington Cascades...

pg. 4-443 - change paragraph under heading Alternative B:
The combination of the riparian and spotted owl conservation strategies should provide forest conditions suitable for fisher breeding, foraging, and resting habitat. In concert, these strategies should ensure the development of large contiguous landscapes ~~of~~ of sub-mature ~~and~~ to old-growth forest, as well as closed canopy forests of different seral stages. In areas managed for spotted owl breeding habitat, at least 50 percent of the NRF management areas in each WAU would be sub-mature or higher quality habitat. The high quality habitat would have old-growth forest characteristics which should provide ~~an adequate amount of~~ some large trees, snags and downed logs to function as fisher habitat. In total, 40-42 percent of the area managed for spotted owl breeding habitat would be

~~mature or~~ sub-mature to old-growth forest. In the west-side planning units, the spotted owl strategy designates 117,000 acres to be managed as spotted owl dispersal habitat. At least 50 percent of the Dispersal management area in each WAU would meet the minimum specifications for spotted owl dispersal habitat (HCP Chapter IV). The purpose of dispersal habitat is to support the movement of juvenile spotted owls between sub-populations on federal reserves, and it is likely the availability of this habitat may enhance the survival of dispersing juvenile fishers. ~~Large, old trees would be specified for retention as part of the leave tree requirement of Washington Forest Practices Rules.~~ Most of the owl habitat provided on DNR-managed lands would be at elevations less than 3,300 feet (1000 meters), ~~because that's where their ownership lies,~~ and, thus, ~~this habitat~~ would likely benefit fishers. Large, old trees would be specified for retention as part of the snag and leave tree strategy of this alternative that provides three snags and five green trees per acre harvested. Preference would be shown for hard snags with bark and snags at least 40 feet high. One of the green trees must be from the largest diameter size class in the harvested unit. These provisions would protect current potential fisher den sites as well as provide potential future den sites. Under Alternative B, DNR would conduct no activity that would appreciably reduce the likelikhood of denning success within 0.5 mile of a known active fisher den between February 1 and July 31 in areas managed for spotted owl breeding habitat ~~that would appreciably reduce the likelihood of denning success~~.

pg. 4-443 and 4-444 - change paragraph under heading Alternative C:
The combination of the riparian and spotted owl conservation strategies should provide forest conditions suitable for fisher breeding, foraging, and resting habitat. In concert, these strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest. In areas managed for spotted owl breeding habitat, at least 60 percent of the NRF management areas in each WAU would be sub-mature or higher quality habitat. The high quality habitat would have old-growth forest characteristics which should provide ~~an adequate amount of~~ some large trees, snags and downed logs to function as fisher habitat. Forest management would create a range of habitat types from grass-forb to late-successional forest which should provide habitat suitable for foraging and den sites. ~~Large, old trees would be specified for retention as part of the leave tree requirement of the Washington Forest Practices Rules.~~ Most of the owl habitat provided on DNR-managed lands would be at elevations less than 3,300 feet (1000 meters), ~~because that's where their ownership lies~~, and, thus, ~~this habitat~~ would likely benefit fishers. Alternative C provides the same snag and green tree retention, seasonal den site protection, and road management plan as Alternative B, thus, the protection would be the same. ~~Under Alternative C, DNR would conduct no activity within 0.5 mile of a known active fisher den between February 1 and July 31 in areas managed~~ The additional conservation measures for ~~spotted owl breeding habitat that would appreciably reduce the likelihood of denning success~~ fishers would be greater under Alternative C than under Alternative A. ~~Road closures on DNR-managed lands would occur, consistent with cost-effective forest management and the policy set forth in the Forest Resource Plan. Under this policy, DNR would cooperate with the Services to restrict road access to protect sensitive wildlife habitat. Although this policy is the same as under Alternative A, additional conservation measures for fishers would be greater under Alternative C than under Alternative A.~~

pg. 4-444 - change paragraph under heading OESF Alternative 2:
...Special provisions for the retention of large, old trees, snags and green trees, and protection of known den sites would be the same under this alternative as in Alternatives B and C above...

pg. 4-445 - change first paragraph:
...This strategy, and the riparian strategy described in Alternative 2 above, would likely ensure that an adequate amount of downed logs and snags suitable for fisher den sites are available in the owl concentration areas. ~~Some management may occur in the outer portion of~~ There would not be a distribution of owl habitat throughout the ~~stream buffers and in~~ OESF and therefore, fisher habitat outside the ~~wetland buffers around forested wetlands, however, these strategies would likely retain some suitable snags for fishers and contribute to protection of potential foraging~~ riparian areas would be patchy. Some management may occur in the outer portion of the stream buffers and in the wetland buffers around forested wetlands, however, these strategies would likely retain some suitable snags for fishers and contribute to protection of potential foraging areas. Special provisions for the retention of large, old trees, snags and green trees, and protection of known den sites, would be the same under this alternative as in Alternatives B and C above. This protection and maintenance of potential fisher habitat is guaranteed and substantially greater than that provided under OESF Alternative 1.

pg. 4-445 - change paragraph under heading Alternative B:
...The combination of the riparian and spotted owl conservation strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest that would provide forest conditions suitable for some wolverine breeding, foraging, and resting habitat...

pg. 4-446 - change paragraph under heading Alternative C:
...The combination of the riparian and spotted owl conservation strategies should ensure the development of large contiguous landscapes of ~~mature and~~ sub-mature to old-growth forest that would provide forest conditions suitable for some wolverine breeding, foraging, and resting habitat...

pg. 4-449 - delete second and third heading and second paragraph:
~~Analysis of Effects of HCP Alternatives on Federally Listed, proposed, and Candidate Plant Taxa~~

~~Plants of concern at the Federal Level~~
~~Species that are of concern at the federal level include those that are listed under the federal ESA, those that are proposed for listing under the ESA, and those that are candidates for listing under the ESA~~

pg. 4-449 - delete the footnote entirely

4.5.3 Endangered, Threatened and Sensitive Plant Species

pg. 4-449 - change last paragraph on page:

...The only known extant site in the world is found in a brackish wetland in California. ~~There are no NRF or Dispersal management areas in proximity to suitable habitat for this species; however, this species would~~ However, this species could occur in wetlands ~~and in areas covered by marbled murrelet protection measures~~ near the Pacific Coast, Willapa Bay, or Puget Sound. HCP Alternatives B and C and ~~the~~ OESF ~~a~~Alternatives 2 and 3 would likely provide better protection of this species' habitat than would the No Action alternatives (HCP Alternative A and OESF Alternative 1) because of their better overall riparian and wetland protections.

pg. 4-450 - change the first paragraph on page:

Castilleja levisecta. Golden paintbrush occurs from Thurston County northward to Vancouver Island. Historically it was also known to occur in the Willamette Valley in Oregon and in Clark County, Washington. The species is restricted to grasslands and areas dominated by a mixture of grasses and shrubs. ~~There are only 10 known sites in the world, eight of which are in Washington.~~ Although this species occurs in grasslands, it could be affected by timber harvest through road building, yarding, or decking logs on adjacent grasslands. Where conifers invade *C. levisecta* habitat, the removal of trees is beneficial to the species. There are only 10 known sites with *C. levisecta* in the world, eight of which are in Washington and one of these is a DNR-managed Natural Area Preserve. All sites are quite small in area and are subject to a variety of threats, the most serious of which is the invasion by a mixture of Douglas-fir, Scot's broom, blackberries, and roses. It is not known to occur, nor is it expected to occur within the Olympic Experimental State Forest. ~~This taxon is not known to occur, nor is it expected to occur, in NRF or Dispersal management areas. It is also not known to occur, nor is it expected to occur within the Olympic Experimental State Forest.~~ There is little to no DNR-managed land adjacent to sites that harbor this species. The HCP alternatives are not expected to have any effect on this species. ~~Although this species occurs in grasslands, it could be affected by timber harvest through road building, yarding, or decking logs on adjacent grasslands. If conifers were to invade grassland habitat, removal of those trees could be beneficial.~~

pg. 4-450 - change first full paragraph:

Howellia aquatilis. Water howellia is an aquatic annual generally found in vernal ponds or portions of ponds in which there is a significant seasonal draw down of the water level. All ponds known ~~ponds~~ to contain this species have a deciduous tree component around their perimeters; most have conifers as well. The species is currently known to occur in Washington, Idaho, and Montana. In Washington, it has been found in Clark, Pierce and Spokane Counties. Historically it was also known to occur in Thurston and Mason Counties, as well as in Oregon and California. ~~This taxon is not known to occur in NRF or Dispersal management areas. Because there has been no inventory of water howellia on DNR-managed lands, possible impacts to this species are unknown under the HCP. If water howellia does occur in the planning area, HCP Alternatives B and C would have~~

~~fewer adverse effects on this species than the No Action alternative because these alternatives offer better overall wetlands protection and possible deferrals and protections for marbled murrelets.~~ There has been no inventory of water howellia on DNR-managed lands, but if water howellia does occur in the planning area, then HCP Alternatives B and C would have fewer adverse effects on this species than the No Action alternative because these alternatives offer better overall wetlands protection and possible deferrals and protections for marbled murrelets.

pg. 4-450 - change second full paragraph:
Lomatium bradshawii. Bradshaw's lomatium was thought to be endemic to the Willamette Valley in Oregon until 1994, when it was discovered in Clark County, Washington. The one site in Washington is a seasonally flooded wetland dominated by grasses, sedges and rushes. As far as is now known within the HCP planning area, this species is restricted to wetlands in flood-plain habitats at low elevations in the Columbia Planning Unit. ~~No NRF or Dispersal management areas occur in close proximity to a suitable habitat for this species.~~ Although not known to occur on DNR-managed lands, some DNR-managed lands may provide potential habitat. ~~However, there is expected to be no difference between the various alternatives in terms of their potential impacts on~~ HCP Alternatives B and C would likely provide better protection of this ~~species~~ species' habitat than would the No Action alternative because of their better overall wetland and riparian protections. The OESF alternatives would have no effect, as the species is not known or expected to occur in the planning unit.

pg.4-450 - change last paragraph on page:
Sidalcea nelsoniana. Nelson's checkermallow was also thought to be restricted to Oregon until relatively recently. There are known sites in Cowlitz and Lewis Counties, Washington. These sites are in low elevation, moist meadows within the South Coast and Columbia HCP planning units. ~~It is not known to occur in NRF or Dispersal habitat management areas and is not likely to occur within close proximity to any such identified lands. However, known sites are within areas that would be subject to marbled murrelet protection measures, and the~~ These sites may qualify as wetlands. There is a limited amount of DNR-managed land that contains suitable habitat...

pg. 4-451 - change first full paragraph:
~~In addition to the above, there are a number of vascular plant taxa~~ There is one vascular plant species that ~~are candidates~~ is a candidate for listing (as of ~~September 1993~~ February 1996) under the federal ESA which ~~are~~ is known to occur, or ~~are~~ is reasonably suspected of occurring, within the HCP planning area. ~~Those species are listed below and in Table 4.5.6.~~ Additional information about ~~these~~ this species can be obtained from DNR's Natural Heritage Program.

pg. 4-451 - add new second paragraph (Note: this will be the only species listed under heading Federal candidate vascular plant species.)**:**
Sidalcea oregana* var. *calva. This taxon is restricted to the Chelan Planning Unit. It may occur on DNR-managed forest land. It can occur along small riparian areas and some of the sites would qualify as wetlands. Alternatives B and C can be expected to provide better protection than the No Action alternative due to the overall better riparian

zone and wetlands protections. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-451 - add new heading and new paragraph before paragraph with subhead *Aster curtus*:

Plant species of concern

There are a number of vascular plant taxa that are species of concern to the U.S. Fish and Wildlife Service (as of February 1996) which are known to occur, or are reasonably suspected of occurring, within the HCP planning area. Those species are listed below and in Table 4.5.6. Additional information about these species can be obtained from DNR's Natural Heritage Program.

pg. 4-451 - change second full paragraph:

Aster curtus. This taxon is restricted to grassland habitats in the lowlands of the Puget trough. It ~~is not known to occur, nor is it expected to occur,~~ may occur in ~~NRF or Dispersal management areas and it is not known nor expected to occur on the OESF~~ grasslands adjacent to DNR-managed forest land. It is not known nor expected to occur on the OESF. Because the plant is generally restricted to nonforested habitats, the HCP alternatives and the OESF alternatives are expected to have ~~no~~ little effect on this species.

pg. 4-451 - change third full paragraph:

Astragalus pulsiferae* var. *suksdorfii. In Washington, this taxon is restricted to the Klickitat Planning Unit and occurs in somewhat open ponderosa pine stands with a relatively sparse understory. One ~~location is within an area identified as spotted owl dispersal habitat. The No Action alternative may provide better habitat protection for this taxon than HCP Alternatives B and C due to higher harvest levels~~ known site of *A. pulsiferae* is on DNR-managed land designated as a Dispersal habitat management area. An alternative with higher harvest levels may provide better habitat protection for this taxon than an alternative with lower harvest levels. However, increased harvest levels may not be a recommended method for enhancing the habitat for this taxon; prescribed burns, or allowing natural fires to burn, would likely be a preferable method. The OESF alternatives would have no effect, as the taxon is not known or expected to occur on the OESF.

pg. 4-451 - change fifth full paragraph:

Calochortus longebarbatus* var. *longebarbatus. In Washington, this taxon is restricted to the Klickitat Planning Unit. It could occur on DNR-managed lands. It occurs primarily in open grasslands, but occasionally extends into open forest stands. Within the Yakama Indian Reservation, it can be found within harvested units and along roadway openings. ~~It is not known to occur in any NRF or Dispersal management areas.~~ Although this taxon could benefit from timber harvest in areas adjacent to meadow openings, it is anticipated that there is no effective difference between Alternatives B and C and the No Action alternative. The OESF alternatives will have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-451 - change last paragraph on page:
Cimicifuga elata. This taxon occurs in DNR Dispersal management areas and potentially within NRF management areas. ~~Several non-DNR sites would meet the criteria for NRF management areas under either Alternative B or Alternative C.~~ The taxon occurs within the North Coast, Straits, South Puget, South Coast, and Columbia planning units. HCP Alternatives B and C are expected to be more beneficial than the No Action alternative due to the lower timber harvest levels of the former in NRF and Dispersal management areas. The OESF alternatives would have no effect, since the taxon is not known or expected to occur on the OESF.

pg. 4-452 - change first paragraph:
Corydalis aquae-gelidae. This taxon occurs primarily along Type 3 through 5 Waters, including small seeps, and is restricted to the Columbia Planning Unit. It ~~is not currently known to~~ could occur ~~in any NRF or Dispersal management areas~~ on DNR-managed lands. HCP Alternatives B and C can be expected to provide better protection than the No Action alternative due to the overall better riparian zone protections.

pg. 4-452 - change second paragraph:
Cypripedium fasciculatum. This taxon occurs within a variety of coniferous stands within the Klickitat, Yakima, and Chelan planning units. ~~Although it is not known to~~ It could occur on DNR-managed lands ~~that have been identified as either NRF or Dispersal management areas, it does occur on lands of other ownership that meet the definitions for NRF and dispersal habitat~~. There is insufficient information available regarding this species' response to timber harvest activities to evaluate the alternatives and their respective effects.

pg. 4-452 - change third paragraph:
Delphinium leucophaeum. This taxon is essentially a grassland species and is restricted to the South Coast Planning Unit. It ~~is not known to occur, nor is it expected to occur, in NRF or Dispersal management areas~~ could occur on DNR-managed lands. The HCP alternatives are expected to have no effect on this species. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-452 - change fourth paragraph:
Delphinium viridescens. This taxon is restricted to the Chelan and Yakima planning units. It may occur ~~within NRF and Dispersal management areas~~ on DNR-managed lands. It can occur along small riparian areas and some of the sites would qualify as wetlands...

pg. 4-452 - change fifth paragraph:
Dodecatheon austrofrigidum. ~~This taxon is not known to occur in NRF or Dispersal management areas.~~ In Washington, ~~it~~ this taxon is currently known ~~only~~ to occur only in the Mt. Colonel Bob Wilderness Area of the Olympic National Forest...

pg. 4-452 - change sixth paragraph:
Erigeron howellii. In Washington, this taxon is restricted to the Columbia Planning Unit. It ~~occurs within both NRF and Dispersal management areas,~~ generally occurs in open

areas. Canopy removal is not expected to have a negative impact, but ground-disturbing activity might. There is insufficient information to analyze which alternative would be the best for this species. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg.4-453 - change first paragraph:
Filipendula occidentalis. In Washington, this taxon is restricted to river and creek banks in southwest Washington, in the Columbia and South Coast HCP planning units. ~~Although it is not known to occur in either NRF or Dispersal management areas, some~~ Some DNR-managed land is relatively close to known sites for this taxon. It is expected that HCP Alternatives B and C could provide more protection than the No Action alternative ~~due to deferrals and~~ because of their better riparian protections ~~for the marbled murrelet. Should the species be found on NRF or Dispersal management areas, the increased riparian~~ The deferrals and protections for the marbled murrelet provided by HCP Alternatives B and C could also benefit this species. The OESF alternatives ~~would~~ should have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-453 - change second paragraph:
Hackelia venusta. This taxon is restricted to the Chelan Planning Unit. All known sites are on USFS lands. Some DNR-managed land ~~identified as NRF management areas~~ occurs within the range of this species. Canopy removal would not have a negative impact and in fact might be beneficial...

pg. 4-453 - add new third heading and new third paragraph:
Lathyrus torreyi. This taxon was thought to be extirpated from the state of Washington. The historic locations were scattered in Clark and Pierce Counties. The only extant site is at McChord Air Force Base, where it inhabits a mature conifer stand with an open understory. Timber management on DNR-managed lands under the HCP and OESF alternatives is unlikely to have an adverse effect.

pg. 4-453 - change third paragraph:
Lomatium suksdorfii. In Washington, this taxon is restricted to the Klickitat Planning Unit. It may occur ~~within spotted owl dispersal habitat~~ on DNR-managed lands. It can occur within riparian areas, but it is not restricted to such areas. It occurs on slopes that may support scattered individual conifers, on the edges of conifer stands, or in stand openings...

pg. 4-453 - change fourth paragraph:
Lupinus sulphureus* var. *kincaidii. This taxon is essentially a grassland species and, in Washington, is restricted to the South Coast Planning Unit. It is ~~not known or expected~~ unlikely to occur ~~in NRF or Dispersal management areas~~ on DNR-managed lands. The HCP alternatives are expected to have no effect on this species. The OESF alternatives are expected to have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-453 - change fifth paragraph:
Meconella oregana. This taxon occurs in grasslands, sometimes adjacent to forested areas, although generally in somewhat savannah-like conditions. ~~It is not known nor expected to occur in NRF or Dispersal management areas.~~ It is expected that there would be no difference between the HCP alternatives in terms of their effects on this taxon. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-453 - change sixth paragraph:
Mimulus jungermannioides. This taxon was historically known to occur in the Klickitat Planning Unit, but is currently thought to be extirpated from the state of Washington. It is restricted to seepage areas in exposed basalt. It is ~~not known~~ unlikely to occur ~~in NRF or Dispersal management areas~~ on DNR-managed lands. The HCP alternatives are not expected to have any impact on this taxon. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-453 - change last paragraph on page:
Penstemon barrettiae. This taxon occurs primarily on exposed basalt in Washington and is known to occur only in the Klickitat Planning Unit. It ~~is not known to occur in NRF management areas, although some~~ may occur ~~within Dispersal management areas~~ on DNR-managed lands. It may occur within riparian areas, although it is not restricted to riparian zones...

pg. 4-454 - delete entire first full paragraph

pg. 4-454 - change second full paragraph:
Silene seelyi. This taxon is restricted to cracks in exposed rock in a small portion of the Chelan, and possibly ~~maybe~~ the Yakima, planning units. Although it is not known to occur on DNR-managed lands, some DNR-managed lands ~~identified as NRF management areas~~ are in close proximity to known locations for this species...

pg. 4-454 - change third full paragraph:
Sisyrinchium sarmentosum. In Washington, this taxon is restricted to the Klickitat Planning Unit. It ~~occurs in moist meadows and small forest openings~~ may occur on DNR-managed lands. It ~~may occur within parcels identified as Dispersal management areas~~ occurs in moist meadows and small forest openings, and it may ~~be~~ occur within riparian and/or wetland areas...

pg. 4-454 - change fourth full paragraph:
Sullivantia oregana. In Washington, this taxon is known only to occur in the Columbia Planning Unit and occurs within waterfall spray zones and seepage areas. ~~It does occur within owl Dispersal and/or NRF management areas. HCP Alternatives B~~ A site with *S. oregana* is located in a DNR-managed Natural Area Preserve, and ~~C are expected to provide better protection than the No Action alternative because of their reduced harvest levels which would better maintain hydrologic flow to the habitat~~ other sites may occur in DNR-managed parcels adjacent to the preserve. HCP Alternatives B and C are expected to provide better protection than the No Action alternative because of their better riparian

and wetland protections. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-454 - change last paragraph:
Trifolium thompsonii. This taxon is only known ~~only~~ to occur in the Chelan Planning Unit. It is a grassland species, but it also occurs on the edge of forest stands. Fire is important in maintaining its habitat. This species is known to occur on DNR-managed lands.~~, but none have been identified as NRF or Dispersal management areas~~. There is expected to be no difference between HCP Alternatives B and C and the No Action alternative. The OESF alternatives would have no effect since the taxon is not known or expected to occur on the OESF.

pg. 4-458 - change heading of first paragraph:
~~Listed, proposed listed, or candidate~~ Plant taxa of ~~little~~ concern to the U.S. Fish and Wildlife Service in the HCP planning area that are highly unlikely to be affected

pg. 4-458 - change third paragraph:
Artemisia campestris ssp. *borealis* var. *wormskioldii*. This taxon is restricted to areas immediately adjacent to the Columbia River in Grant and Klickitat Counties. The areas do not support conifers and are far enough removed from ~~spotted owl habitat~~ DNR forest management that management ~~of that habitat is~~ activities are not likely to have any impact.

pg. 4-459 - change third paragraph:
Lomatium tuberosum. This taxon ~~does not occur on DNR-managed lands that have been identified as either NRF or Dispersal management areas. It~~ is restricted to talus slopes, mostly in nonforested areas, although there can be trees adjacent to the talus. Within the HCP planning area, this taxon is known only from the Yakima Planning Unit.

pg. 4-459 - change fourth paragraph:
Petrophytum cinerascens. This taxon ~~is~~ occurs just within the ~~very~~ eastern edge of the Chelan Planning Unit~~, but it does not occur within NRF or Dispersal management areas. In fact, it~~ and is restricted to rock outcrops adjacent to the Columbia River.

pg. 4-459 - delete entire fifth paragraph

pg. 4-459 - change last paragraph:
Tauschia hooveri. This taxon is restricted to lithosolic, nonforested habitats. It ~~occurs mostly east of the HCP planning area, although some sites are within the Yakima and perhaps the Klickitat planning units. It does~~ is known to occur on DNR-managed ~~lands, but not on lands identified as either NRF or Dispersal management areas~~ land. It occurs mostly east of the HCP planning area, although some sites are within the Yakima and perhaps the Klickitat planning units.

4.5.4 Habitat-Based Assessment of Other Fish and Wildlife Resources

pg. 4-465 - change second paragraph:

...The primary assumption with regard to impacts to these other species is that if adequate amounts of habitat of sufficient quality are provided and other factors do not preclude the use of that habitat, then these species will persist. The question is whether the combination of the described protective measures, natural diversity within the habitats on DNR-managed lands, and the diversity of treatments to be implemented under each of the alternatives would provide a sufficient amount of habitat...

pg. 4-464 - change last paragraph:

...Some species may be much more restrictive in their use of habitats and may depend upon only specific types of habitats within the coarse categories discussed in this section. For instance, some species are not only reliant on wetlands, but on those wetlands classified as bogs. As much as possible, forested habitats were divided according to forest structure and composition in a way that should be meaningful to forest-dwelling wildlife. Age classes of forested habitats were used as a surrogate for structure and composition in making estimates for this assessment. Conifer-dominated forests were classified as structurally complex forest (including fully functional forest and interior forest); closed-canopy forest; dense pole forest; regeneration forest; open~~, multi-aged~~ forest;~~ regeneration forest;~~ and, on the east side, open, multi-aged forest. Other categories are wildlife trees, wetlands, riparian areas, aquatic habitats, caves, cliffs, talus rock, oak woodlands, prairies, subalpine and alpine habitats, and other habitats.

pg. 4-466 - change paragraph under heading Assumptions necessary to facilitate comparisons:

Several assumptions were necessary to fill gaps in available data and the lack of details in some prescriptions. Actions under the alternatives are variable. This is particularly true under the No Action alternative because there is no guarantee that those actions will be conducted. ~~Several of the assumptions necessary to facilitate comparison are discussed below.~~

pg. 4-466 - delete subparagraphs 1 and 2 entirely

pg. 4-466 - change subparagraph 3:

> ~~3.~~ Although there ~~are~~ is considerable ~~amounts of~~ uncertainty associated with the No Action alternative, some aspects were relatively more certain. It is assumed, for instance, that DNR would continue to honor the Hoh Agreement (Hoh Tribe and DNR 1993) regarding protection of riparian areas within portions of the OESF. In all alternatives, protection of unstable slopes was assumed to result in older forest. However, many of these areas might not be capable of supporting trees long enough to develop old-forest conditions and some unstable slopes might be harvested once appropriate techniques or knowledge are available. Further, some harvest may actually reduce the risk of failure on some slopes.

pg. 4-467 - change last sentence of paragraph under heading Structurally Complex Forests:
...Species using this habitat category range from the Johnson's hairstreak butterfly to the northern ~~spotted owl~~ goshawk.

pg. 4-467 - add to paragraph under heading East-Side Planning Units:
East-side forest habitats are not described in terms of age classes. Uneven-aged stands comprise the majority of east-side stands and conditions are described in more qualitative terms. Currently, 29 percent of DNR-managed lands on the east side are considered to be owl habitat (DEIS Table 4.3.5). Many 70-year-old stands may begin to approximate owl habitat on the east side of the Cascades where stands tend to be more diverse with regard to species and age composition.

pg. 4-468 - change first paragraph on page:
~~Recent application of DNR policies indicates that r~~ Riparian buffers may contribute to complex forests, but a review of recent applications of DNR policies indicates such treatments are not guaranteed. Unstable slopes may be deferred from harvest until more is learned about how these slopes can be managed without increasing the risk of mass wasting and erosion. It is ~~likely~~ possible that in the short term, and even in the long term to some degree, that unstable slopes will contribute somewhat to complex forests.

pg. 4-468 - change last sentence of paragraph under heading East-Side Planning Units:
...It is projected that at year 2096, 17 percent of the east-side lands ~~will~~ would be in NRF habitat.

pg. 4-468 - change first sentence of paragraph under heading OESF Planning Unit:
As described above, the No Action alternative would contribute complex forest as a result of owl and murrelet conservation, riparian buffers, and, to a lesser degree, unstable-slope protection...

pg. 4-468 - change first paragraph under heading West-Side Planning Units:
...As in the No Action alternative, complex forest would be provided as a result of owl conservation, marbled murrelet protection, and other actions ~~such as unstable-slope protection~~. The owl conservation strategy will only occur in designated landscapes under Alternative B. The goal for those designated landscapes is that 50 percent of the designated area (by WAU) be developed and maintained in foraging habitat...

pg. 4-469 - change first full paragraph:
...Those factors which are necessary to avoid ~~salmon~~ impacts to salmonid ~~and have been previously delineated (large woody debris, water temperature, sedimentation rates, and water quality)~~ would be maintained~~, which may incidentally maintain factors important to riparian and terrestrial species as well, but it is not certain~~. The protection afforded unstable slopes would be the same as presented under the No Action alternative.